

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA

IN RE: SOCIAL MEDIA ADOLESCENT  
ADDICTION/PERSONAL INJURY PRODUCTS  
LIABILITY LITIGATION

This Filing Relates To:

*ALL ACTIONS*

MDL No. 3047

Case No. 4:22-md-03047-YGR-PHK

**JOINT STATEMENT RE: META’S  
RESPONSE TO  
INTERROGATORY NO. 6 (TIME  
SPENT DATA)**

Judge: Hon. Yvonne Gonzalez Rogers

Magistrate Judge: Hon. Peter H. Kang

Dear Judge Kang:

Defendants Meta Platforms, Inc.; Instagram, LLC; Meta Payments, Inc.; and Meta Platforms Technologies, LLC (collectively, “Meta”), the Personal Injury and School District (“PISD”) Plaintiffs, and the State Attorneys General (“State AGs”) respectfully submit this letter brief regarding disputes related to Meta’s response to Plaintiffs’ Interrogatory No. 6.

Pursuant to the Discovery Standing Order and Civil Local Rule 37-1, the Parties attest that they repeatedly met and conferred by teleconference, email, and correspondence before filing this brief, including holding a final conference of lead trial counsel on November 14, 2025. Because all lead counsel were not located in the geographic region of the Northern District of California or otherwise located within 100 miles of each other, they met via teleconference. Lead trial counsel have concluded that no agreement or negotiated resolution can be reached.

Plaintiffs request that the Court hear oral argument on this dispute at the Court’s earliest convenience. Meta does not believe that oral argument is necessary, but defers to the Court’s preference.

Dated: December 5, 2025

Respectfully submitted,

**ROB BONTA**  
Attorney General  
State of California

/s/ Megan O’Neill  
Nicklas A. Akers (CA SBN 211222)  
Senior Assistant Attorney General  
Bernard Eskandari (SBN 244395)  
Emily Kalanithi (SBN 256972)

Supervising Deputy Attorneys General  
Nayha Arora (CA SBN 350467)  
David Beglin (CA SBN 356401)  
Megan O'Neill (CA SBN 343535)  
Joshua Olszewski-Jubelirer (CA SBN  
336428)  
Marissa Roy (CA SBN 318773)  
Brendan Ruddy (CA SBN 297896)  
Deputy Attorneys General  
California Department of Justice  
Office of the Attorney General  
455 Golden Gate Ave., Suite 11000  
San Francisco, CA 94102-7004  
Phone: (415) 510-4400  
Fax: (415) 703-5480  
Joshua.OlszewskiJubelirer@doj.ca.gov

*Attorneys for Plaintiff the People of the State  
of  
California*

**PHILIP J. WEISER**

Attorney General  
State of Colorado  
/s/ Krista Batchelder  
Krista Batchelder, CO Reg. No. 45066, *pro  
hac vice*  
Deputy Solicitor General  
Shannon Stevenson, CO Reg. No. 35542, *pro  
hac vice*  
Solicitor General  
Elizabeth Orem, CO Reg. No. 58309, *pro hac  
vice*  
Assistant Attorney General  
Colorado Department of Law  
Ralph L. Carr Judicial Center  
Consumer Protection Section  
1300 Broadway, 7th Floor  
Denver, CO 80203  
Phone: (720) 508-6651  
krista.batchelder@coag.gov  
Shannon.stevenson@coag.gov  
Elizabeth.orem@coag.gov

*Attorneys for Plaintiff State of Colorado, ex  
rel.*

*Philip J. Weiser, Attorney General*

**RUSSELL COLEMAN**

Attorney General  
Commonwealth of Kentucky

/s/ Philip Heleringer

J. Christian Lewis (KY Bar No. 87109),

*Pro hac vice*

Philip Heleringer (KY Bar No. 96748),

*Pro hac vice*

Zachary Richards (KY Bar No. 99209),

*Pro hac vice*

Daniel I. Keiser (KY Bar No. 100264),

*Pro hac vice*

Matthew Cocanougher (KY Bar No. 94292),

*Pro hac vice*

Assistant Attorneys General

1024 Capital Center Drive, Suite 200

Frankfort, KY 40601

CHRISTIAN.LEWIS@KY.GOV

PHILIP.HELERINGER@KY.GOV

ZACH.RICHARDS@KY.GOV

DANIEL.KEISER@KY.GOV

MATTHEW.COCANOUGH@KY.GOV

Phone: (502) 696-5300

Fax: (502) 564-2698

*Attorneys for Plaintiff the Commonwealth of  
Kentucky*

**MATTHEW J. PLATKIN**

Attorney General  
State of New Jersey

/s/ Kashif T. Chand

Kashif T. Chand (NJ Bar No. 016752008),

*Pro hac vice*

Attorney General

Thomas Huynh (NJ Bar No. 200942017),

*Pro hac vice*

Assistant Section Chief, Deputy Attorney  
General

Verna J. Pradaxay (NJ Bar No. 335822021),

*Pro hac vice*

Mandy K. Wang (NJ Bar No. 373452021),

*Pro hac vice*

Deputy Attorneys General  
New Jersey Office of the Attorney General,  
Division of Law  
124 Halsey Street, 5th Floor  
Newark, NJ 07101  
Tel: (973) 648-2052  
Kashif.Chand@law.njoag.gov  
Thomas.Huynh@law.njoag.gov  
Verna.Pradaxay@law.njoag.gov  
Mandy.Wang@law.njoag.gov

*Attorneys for Plaintiffs New Jersey Attorney General and the New Jersey Division of Consumer Affairs Matthew J. Platkin, Attorney General for the State of New Jersey, and Elizabeth Harris, Acting Director of the New Jersey Division of Consumer Affairs*

By: /s/ Lexi J. Hazam

LEXI J. HAZAM

**LIEFF CABRASER HEIMANN &  
BERNSTEIN, LLP**

275 BATTERY STREET, 29TH FLOOR  
SAN FRANCISCO, CA 94111-3339  
Telephone: 415-956-1000  
lhazam@lchb.com

PREVIN WARREN

**MOTLEY RICE LLC**

401 9th Street NW Suite 630  
Washington DC 20004  
Telephone: 202-386-9610  
pwarren@motleyrice.com

Co-Lead Counsel

**COVINGTON & BURLING LLP**

/s/ Ashley Simonsen

Ashley M. Simonsen (State Bar. No. 275203)  
COVINGTON & BURLING LLP  
1999 Avenue of the Stars  
Los Angeles, CA 90067  
Telephone: + 1 (424) 332-4800

Facsimile: +1 (650) 632-4800  
Email: [asimonsen@cov.com](mailto:asimonsen@cov.com)

*Attorney for Defendants Meta Platforms, Inc.  
f/k/a Facebook, Inc.; Facebook Holdings,  
LLC; Facebook Operations, LLC; Facebook  
Payments, Inc.; Facebook Technologies,  
LLC; Instagram, LLC; Siculus, Inc.; and  
Mark Elliot Zuckerberg*

**Plaintiffs’ Position:** Despite series of meet-and-confers and promised solutions over the past nine months, Meta has repeatedly failed to produce accurate and complete data concerning an issue indisputably central to this case—how much time users spend on its platforms. In response to a September 2024 Interrogatory, Meta finally agreed in February 2025 to produce data showing the average daily time spent of Monthly Active Users (MAUs) on Facebook and Instagram for each month of the Relevant Time Period, broken down by age and specific percentiles. After the close of fact discovery, Meta produced four successive, erroneous datasets (“Time Spent Data”), which failed to provide the agreed-upon data and shrouded the true extent of platform usage. In a final effort to obtain complete and accurate data, Plaintiffs request a court order (i) permitting the State AGs’ expert to inspect Meta’s databases to extract the subject data or alternatively, (ii) requiring Meta to produce the subject data with the involvement of the State AGs’ expert in the formation of the search queries and data calculations. Such involvement is necessary to ensure transparency into the process and to avoid further delay. Under either scenario, Plaintiffs also ask the Court to order Meta to produce a Rule 30(b)(6) witness to testify as to the time spent and MAU data.

Under Rule 26, Meta must “supplement or correct” an interrogatory response “in a timely manner” upon “learn[ing] that in some material respect the . . . response is incomplete or incorrect.” Fed. R. Civ. P. 26(e)(1)(A). “[A] party may also move to compel a forensic examination as a remedy without serving a standalone discovery request” where, as here, the inspection is sought “to remedy . . . a failure to comply with discovery obligations.”<sup>1</sup> *Citizens Bus. Bank v. Mission Bank*, No. 5:22-CV-01473-FLA (SPX), 2024 WL 3363593, at \*4 (C.D. Cal. Mar. 15, 2024); *see also* Fed. R. Civ. P. 37(a)(3)(B)(iii) (a motion to compel inspection “can be made if . . . a party fails to answer an interrogatory submitted under Rule 33”). Accordingly, courts have permitted the inspection of relevant records where the responding party failed to reasonably collect responsive information. *See, e.g., Juul Labs, Inc. v. Chou*, No. 221CV03056DSFPDX, 2022 WL 2161062, at \*2 (C.D. Cal. Apr. 19, 2022) (citing cases). Forensic examination has also been ordered when there were “serious questions . . . as to both the reliability and completeness of materials produced in response to [ ] discovery requests.” *Brocade Commc’ns Sys., Inc. v. A10 Networks, Inc.*, No. 10-CV-03428-LHK, 2012 WL 70428, at \*3 (N.D. Cal. Jan. 9, 2012).

The history of Meta’s prior, flawed datasets provides context about the current dispute and the basis for the Plaintiffs’ requested remedies. Meta completed its first Time Spent Data production on April 17, 2025. Meta completed replacement productions to address errors in the April production on May 23. In accompanying interrogatory responses, Meta represented that the productions “show the average daily time spent per day” for users “by month” or “for each month,” broken down by state, age, and certain percentiles, consistent with the parties’ agreement. On June 10, Plaintiffs deposed a Rule 30(b)(6) designee about the data and learned that this representation was false. Meta excluded from its “average” calculations any days on which users were inactive.

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<sup>1</sup> Rule 33(d) also provides that a party can respond to an interrogatory by specifying business records and permitting the interrogating party to inspect, compile, and summarize them. This further supports the State AGs’ request for inspection, following Meta’s multiple delayed and erroneous productions. *See L.H. v. Schwarzenegger*, No. CIV S06-2042 LKK GGH, 2007 WL 2781132, at \*5 (E.D. Cal. Sept. 21, 2007) (ordering the disclosure of thousands of files containing data responsive to an interrogatory, after defendants responded that the interrogatory would require manual review of those files, reasoning that defendant “could have directed plaintiffs to the files . . . and permitted a [Rule 33(d)] inspection” months prior).

Thus, contrary to the plain meaning of Meta's sworn representations, it did not calculate the average of users' daily time spent in a given month, but rather the average of users' daily time spent *on active days* in a given month. Plaintiffs promptly requested a revised production reflecting true average using all days of each month.

Meta completed its next production on July 23 along with sworn interrogatory responses providing the same description. Again, Meta's description of the dataset was inaccurate: the percentile distribution did not consist of the *average* daily time spent metrics; instead, Meta produced a percentile distribution consisting of individual daily time spent records in a given month. Plaintiffs again promptly requested revised data. To guard against further inaccuracies, Plaintiffs negotiated that Meta would also provide a description of its calculation and four state/month/age combination samples of underlying data so that the Plaintiffs' expert(s) could replicate Meta's calculations. Meta completed this production on October 10.

Within days, Plaintiffs uncovered two significant flaws in the October 10 production and notified Meta of those issues on October 17. *First*, the percentile distributions that the State AGs' expert derived from the four samples differed from Meta's percentile data in almost every instance; the lone exception being a percentile with an average daily time spent of zero seconds. In response, Meta disclosed it used a function with an error rate of 1.33% to *approximate* the percentiles, instead of calculating exact percentiles. Meta did not identify this approach in conferral, in interrogatory responses, or during the June 10 Rule 30(b)(6) deposition, choosing instead to represent the data as "normal" percentiles and unilaterally imposed on the Plaintiffs an error rate of Meta's choosing.<sup>2</sup> *Second*, Plaintiffs discovered that the time spent dataset included MAUs that did not log a single second of time during any day of the relevant month. The inclusion of these users directly contradicts Meta's own definition of an MAU – that being "a registered and logged-in . . . user who visited [the platform] in the last 30 days." More than 2.5% of the percentile distributions for Instagram have an average daily time spent of zero seconds at the 10<sup>th</sup> percentile, meaning that at least 10% of the users within that cohort registered zero time spent during the relevant month; more than 10% of the Facebook distributions had an average daily time spent of zero seconds all the way to the 50<sup>th</sup> percentile. By producing approximate percentiles and including MAUs with zero time spent, Meta has manufactured a dataset that clusters MAUs at the upper boundaries of the time spent distributions, artificially deflates the average time spent by users, and prevents the use of interpolation to determine the percentage of users above high usage thresholds, as low as 3 hours per day in some instances. In a case focused on addictive and compulsive use of Meta's platforms by teens, this presents a significant hurdle to the ability of Plaintiffs to litigate their cases.

**Meta's Position:** Meta initially produced 1.1 million data points in response to Interrogatory No. 6. These reflect, *inter alia*, percentiles of users' daily time spent (10th, 20th, 30th, 40th, 50th, 60th, 70th, 80th, 90th, 95th, and 99th percentiles) broken down by platform (Instagram/Facebook), month, state, and multiple age parameters (stated age, predicted age, and predicted teen/non-teen).<sup>3</sup> In August, the AGs demanded further production of the same

<sup>2</sup> See Rule 30(b)(6) Transcript of Deposition of Nicholas Wakefield, June 10, 2025.

<sup>3</sup> This initial round of data itself involved multiple productions because the AGs demanded that Meta re-calculate the percentiles using an alternative methodology that incorporates days when a user did not use the platform and therefore had no time spent on those days.



percentiles for users' *average* daily time spent. Interrogatory No. 6 did not request average time spent, but Meta provided this additional data—consisting of another 1.1 million data points—to avoid a dispute.<sup>4</sup> Meta also produced four sets of raw sample data so that Plaintiffs could spot-check Meta's calculations. Meta spent months investigating and producing all of this data.

The AGs now demand even more to address two trivial “issues” with the data, including (a) on-site inspection of Meta's databases or another production by Meta revised per Plaintiffs' demands, plus more sample data; (b) expert oversight in writing the data queries and reviewing “intermediate tables and results”; (c) a supplemental 30(b)(6) deposition; (d) expert schedule changes; and (e) no deposition for their expert on any supplemental opinions on new data. This is a highly disproportionate overreach. Discovery closed more than six months ago; Plaintiffs' expert has already opined on this data; and Plaintiffs' endless demands for more must end.

*First*, Plaintiffs fault Meta for using an approximation algorithm for the percentiles. But approximation algorithms are a standard data science best practice, including at Meta, when computing percentiles for large datasets because of the excessive time needed to compute exact percentiles. Arroyo Decl. ¶ 2; Hong Su, et al., *Approximate Aggregates in Oracle 12C*, Conference on Information and Knowledge Management, at 1603, 1604 (October 24, 2016).<sup>5</sup> Indeed, Meta developed the Presto approximation function (`approx_percentile`) used here, which is now an industry standard, open-source software suite used for querying large databases. Arroyo Decl. ¶ 3. The approximation function uses a publicly-known, standard algorithm. *Quantile Digest Functions*, Presto, <https://prestodb.io/docs/current/functions/qdigest.html> (last visited Nov. 26, 2025). Meta used a 1.33% “accuracy” parameter with this function (the default standard in Meta's ordinary course of business), which means that the percentile identified for each value will be within 1.33% of the exact percentile. Arroyo Decl. ¶ 4. For example, the value provided for the 70th percentile would be somewhere between the 68.67th and 71.33rd percentiles if exact percentiles were calculated. Arroyo Decl. ¶ 4.

Plaintiffs' demand for exact percentiles has no legal basis. Meta gave a complete verified answer to the interrogatory, and Plaintiffs' opinion that Meta's answer is inaccurate or imprecise is not a basis to compel a further response. *See, e.g., Burke v. Basil*, 2021 WL 4189395, at \*3 (C.D. Cal. May 21, 2021) (denying motion to compel and declining to decide the factual accuracy of interrogatory responses where they were answered fully in writing and under oath); *Petconnect Rescue, Inc. v. Salinas*, 2022 WL 448416, at \*4 (S.D. Cal. Feb. 14, 2022) (“[T]he Court does not grade the factual accuracy of Defendants' responses in a motion to compel.”).

Plaintiffs' demand is also disproportionate. There is no relevance to whether any particular percentile is imprecise by a minimal amount—particularly when Meta has provided 1.1 million data points and the errors run in both directions and thus cancel each other out in the

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<sup>4</sup> The AGs justified this demand by pointing to a single misplaced word in Meta's interrogatory response that incorrectly suggested that Meta had produced percentiles of *averages*, even though Meta's cover letter for the data and the 30(b)(6) deposition accurately described the data.

<sup>5</sup> <https://dl.acm.org/doi/10.1145/2983323.2983353> (paywalled). Counsel can provide a copy upon request. *See also* Tyler, Garrett, *Quantiles at Scale: Percentiles Without Full Sorts*, <https://dev3lop.com/quantiles-at-scale-percentiles-without-full-sorts/>



aggregate.<sup>6</sup> Moreover, any additional precision in the percentiles would be illusory; other predictions inherent to the data, including the ages and locations of users, are also subject to error. Against this negligible relevance, the burden of generating yet another set of data—with exact percentiles, which Meta does not calculate in the ordinary course of business—is excessive. This would require a bespoke solution that Meta estimates would take at least 6-7 weeks. Arroyo Decl. ¶ 5. Plaintiffs’ demand for an on-site examination—a “drastic” remedy, *United States v. Cal. Inst. of Tech.*, 2020 WL 13547790, at \*7 (C.D. Cal. Nov. 18, 2020)—is entirely out of proportion to the AG’s minor complaint and would require training the expert and facilitating their review, which would add at least another 4 weeks. Arroyo Decl. ¶ 6.

*Second*, the AGs complain that a small number of MAUs have zero time spent. But this simply reflects the data in Meta’s systems. Meta need not amend its data to fit what Plaintiffs would “like” it to be. *Gilbert v. Fernald*, 2022 WL 16860279 at \*7 (C.D. Cal. Sept. 1, 2022). Regardless, the impact of these edge cases is extremely limited—MAUs with zero time spent appear in the 10th percentile or greater only in discrete time periods and/or user cohorts. These issues appear to occur between February and June 2013 for Facebook (and only affected 20 states) and between November 2022 to February 2023 (and only affected stated age data, not the more reliable predicted age data). Plaintiffs’ experts can easily mitigate this issue by analyzing the enormous volumes of other percentile data points produced by Meta. In addition, Meta investigated the issue, explained to Plaintiffs the causes of these edge cases, and offered to provide those explanations in a stipulation or supplemental interrogatory response.

There is no basis for Plaintiffs’ motion to compel. Nevertheless, Meta attempted to compromise by offering (1) additional sample data to allow the AGs to confirm the extremely limited impact of approximated percentiles; (2) to stipulate or supplement its response explaining these issues; and (3) to agree not to attack Plaintiffs’ expert for relying on the approximated percentiles in Meta’s response. Plaintiffs’ over-the-top demands for more should be rejected.

**Plaintiffs’ Response:** The impact of Meta’s inaccurate data production is not “trivial” – the average amount of time spent by teens on Meta’s platforms is artificially deflated to a significant degree by including data from swaths of users spending no time on the platform,<sup>7</sup> and the ability to determine what proportions of teens use the platforms over certain time thresholds, particularly at high thresholds, is distorted or made impossible via the use of approximate percentiles. Nor is this a matter of “factual accuracy” that the Plaintiffs are asking the Court to grade, or an issue of what Plaintiffs would “like” the data to be as Meta suggests. The fact is that Meta produced interrogatory responses that are not what they purport to be nor what Meta agreed to produce, yet refused to supplement. Plaintiffs requested average daily time spent data for MAUs of each platform, understanding that the users in the dataset would fit Meta’s MAU definition: a user that visited the platform during the month, thereby accruing time spent. Plaintiffs requested, and Meta attested to having provided, percentile distributions of average daily time spent, yet never disclosed that the percentiles were approximate despite having multiple opportunities to do so in conferrals, interrogatory responses, and a 30(b)(6) deposition. Meta’s 30(b)(6) deponent explained that Meta

<sup>6</sup> Indeed, the sample data shows that the *actual* error rate for every percentile in the sample is below 0.3% and that the direction of the error is random.

<sup>7</sup> MAUs with no time spent on FB appear in the 10<sup>th</sup> percentile for *every month* and nearly 30% of all distributions, and in all types of age data for both platforms, contrary to Meta’s false assertions.

calculated the 50<sup>th</sup> percentile by “tak[ing] all of the values that make up that particular segment, and you find the value *right in the middle*.” Wakefield Dep. 119:15-17, June 10, 2025 (emphasis added). He did *not* say that Meta calculated the 70<sup>th</sup> percentile via a function that returns a value that falls somewhere between the 67.87<sup>th</sup> and 71.33<sup>rd</sup> percentiles as Meta now informs Plaintiffs. Arroyo Decl. ¶ 4.<sup>8</sup> The time spent by users on Meta’s platform is a central issue in this litigation and Meta should produce accurate data, as it agreed to do.

Meta has failed to meet its obligations under Rule 26. Plaintiffs request that the Court order Meta to remedy these deficiencies immediately to minimize prejudice to the prosecution of this case.

**Meta’s Response:** The vast majority of Plaintiffs’ brief rehashes old issues that the parties already resolved. That history, which Plaintiffs largely mischaracterize,<sup>9</sup> is not before the Court.

As to the two quibbles Plaintiffs are currently raising, Plaintiffs fail to articulate any coherent relevance argument—let alone a justification for their proposal to massively re-open fact discovery. First, Plaintiffs contend that the data “artificially deflates” time spent. But the approximated percentiles do not skew in either direction, as explained above. MAUs with no time spent also do not skew the data—they simply reflect the data in Meta’s systems. MAUs with zero time spent are largely confined to very limited time periods and user cohorts, as explained above, but Plaintiffs exaggerate the impact.<sup>10</sup> Second, Plaintiffs assert that approximated percentiles somehow prevent their expert from “interpolating” the percentiles. Not so. Setting aside the validity and relevance of this methodology, Plaintiffs’ expert already conducted it on the existing data, and Meta already offered not to complain that the percentiles were approximated. In addition, exact percentiles will not facilitate the precise interpolation Plaintiffs contemplate because of other predictions inherent in the data, discussed above.

Plaintiffs cite no law to support an inspection for an alleged error in a Rog response. Their cited cases all involved (a) a document request or Rog response that invoked Rule 33(d) (which Meta did not use here); and (b) allegations of serious misconduct or an incomplete answer.<sup>11</sup> Nor do Plaintiffs explain why an additional deposition is needed. Meta provided a 3+ hour 30(b)(6) deposition covering “time spent and MAU data,” and Plaintiffs’ aggregate time is spent. Meta already offered to address the two remaining issues in a stipulation or interrogatory response; Plaintiffs’ open-ended demand for another deposition on time spent should be rejected.

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<sup>8</sup> Plaintiffs object to Meta’s attachment of a declaration that fails to comply with the Court’s standing order as it concerns topics beyond “a specific claim of undue burden.”

<sup>9</sup> *E.g.*, contrary to Plaintiffs’ assertions: (1) Meta’s production was largely completed *before* April 4 for IG and 2 weeks later for FB; (2) Meta made a corrected production in May to eliminate data for certain outliers; (3) Meta’s productions in July and October were made at the AGs’ behest as they wanted Meta to apply different calculation methodologies (including the averages issue described in Meta’s opening); and (4) Meta’s deponent did not testify in June that the data reflected percentiles of *averages* (tellingly, Plaintiffs provide no citation for this falsehood).

<sup>10</sup> Plaintiffs assert that more than 2.5% of the IG data distributions have zero time spent at the 10<sup>th</sup> percentile and 10% of the FB data distributions have zero time spent at the 50<sup>th</sup> percentile, but these figures drop to 0.59% and 0.08%, respectively, when unknown age cohorts are excluded.

<sup>11</sup> *See also Juul, supra* at \*2 (collecting cases alleging intentional destruction or concealment).

**EXHIBIT A**

**INTERROGATORY 6:**

For each month in the Relevant Time Period, identify by decile the Time Spent Per Day by users of each platform in each State, broken out as follows: in total, of Unidentified Age, of each Reported Age between 0 and 100, and of each inferred Age between 0 and 100.